THE PLANT DISEASE REPORTER

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The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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IN THIS ISSUE

The Acer "sample section" of the revised Check List has been compiled by Freeman Weiss, page 190.

According to Alma M. Waterman and Kenneth F. Aldrich, page 201, the Rehmiellopsis needle blight is abundant and in some cases destructive on the native balsam fir in a relatively small area surveyed in northwestern Maine, and may probably be more widespread than was shown by the surveys.

Paul V. Mook reports three new locations for the sycamore disease and requests specimens from trees suspected of being affected by the disease, page 205.

Cynthia Westcott reports occurrences of gray bulb rot and botrytis blight on tulips, page 206.

The cause of a decay affecting Louisiana strawberries received in Montreal was found to be Rhizoctonia, although the symptoms were like those of the leather rot caused by Phytophthora, according to Ivan H. Crowell, page 207.

Diseases of cereal crops are reported from Virginia by S. B. Fenne and from Texas by I. M. Atkins, page 207.

ACER SECTION OF REVISED CHECK LIST

Freeman Weiss

In presenting another sample section of the revised Check List, the author wishes to acknowledge with thanks the receipt of several very helpful communications in response to the publication of the first section in the Plant Disease Reporter, Vol. 24, No. 7, and to invite further suggestions from all who may be willing to contribute their information to the end that this revision may be as complete and accurate as present knowledge permits.

In the present section one departure has been made from the procedure followed in the first, in that the names of pathogens that occur on all or most of the species of Acer are entered twice, first under the general heading Acer spp. and again under each host species on which they have been reported. An exception is made of those organisms that occur commonly and widely not only on Acer spp. but on many other plant species and substrates as well. This is a compromise between the procedure followed in the original Check List, where all known parasitic organisms, even those of generalized host relationships, were listed under each species on which they have been reported, and the procedure adopted in the first section of the revised Check List, where generalized parasites were listed only once, under the genus as a whole. The defect of the latter procedure is that almost no information is given on the geographic distribution of the parasite, unless it be assumed that it occurs wherever any of the host species are found, which in many instances assumes too much. On the other hand, anticipated space limitations in the complete publication preclude listing under each host all the parasitic organisms of general distribution and omnivorous habit that have been recorded on them. An expression of opinion is solicited from readers of the Plant Disease Reporter as to whether the procedure exemplified in the ABIES or the ACER sections is preferred.

It should be noted that the list of names given under the genus as a whole is annotated to the extent of including synonyms in some instances where changes as yet not widely known have been made, and also to show relationships between the phases of complex life cycles. Although it is impracticable to make such annotations complete, it is planned to include as many as space permits and for which there seems to be need. Synonyms and the names of subordinate phases of the life cycle are not repeated under the separate host species.

The question of how inclusive the list should be of ascogenous stages that develop saprophytically on dead leaves and twigs occasions much perplexity. The decision is easy where the complete life cycle is known and the parasite is readily recognized under the name of its ascogenous phase, even though the conidial phase is typically associated

with its pathogenic relationship. But in a large number of instances the conidial and ascogenous phases of life cycles have not yet been related. It would seem to be a serious defect to report merely the conidial phase when known under some incomplete name as Phomopsis, Sphaeropsis, etc., and omit all mention of critically identified ascogenous stages merely because they are observed only in a saprophytic relationship. Some of these saprophytic organisms will doubtless prove to be stages of life cycles involving pathogenic phases now known under imperfect names. On the other hand, it would obviously be going too far in this compilation to record all organisms collected upon a particular substrate, as in a mycological check list, without regard to pathogenic relationships. Suggestions regarding errors of omission and commission in this respect are especially solicited.

Reprints of the sample sections will be sent on request to all who wish to file them or to use them as a basis for corrections and insertions and remission to the author. The present intention is to complete the sections inclusive of arborescent hosts before issuing any sections dealing with other host groups.

ACER

Occurring on Acer spp. in general or reported on undetermined spp.

Alcurodiscus acerinus (Fr.) Hoehn & Litsch., bark patch. Widespread.
Armillaria mellea (Vahl) Fr., mushroom root rot. Widespread.
(Ascochyta aceris Lib.) Phyllosticta negundinis = ? P. minima.
(Creonectria purpurea (L.) Seaver). Nectria cinnabarina.
(Cylindrosporium acerinum Tr. & Earle, C. negundinis Ell. & Ev., C. saccharinum Ell. & Ev.). See Phleospora aceris.
(C. consociatum Deam.). Phleospora curvispora (Ell. & Ev.) Petr., ? P. aceris.
Cytospora chrysosperma (Pers.) Fr. See Valsa sordida.
Daedalea unicolor (Bull.) Fr., butt rot, heart rot; occasionally on living trees.
D. quercina Fr., butt rot, heart rot.
Dermatea acerina (Pk.) Rehm (Sphaeronema acerina Pk.), bark canker. Occasional.
Fomes applanatus (Pers.) Gill., white mottled rot, butt rot, root rot; occasionally on living trees.
F. connatus (Weinm.) Gill., white spongy rot; occasionally on living trees, especially red and sugar maples.
F. fomentarius (L.) Gill., white mottled rot; occasionally on living trees.
F. igniarius (L.) Gill., white spongy rot, heart rot.
F. pinicola (Sw.) Cke., brown crumbly heart rot.
(Gloeosporium aceris Cke., G. acerinum Pass., G. negundinis Ell. & Ev., ? G. saccharinum Ell. & Ev.). Phleospora aceris.

Gloeosporium apocryptum Ell. & Ev., leaf blight. General.
G. nervisequum. See Gnomonia veneta.
Gloeosporium spp., leaf spot. Besides the foregoing other specific names have been applied to Gloeosporium on maple; some are synonyms, some are probably saprophytic or weakly parasitic forms following environmental injuries and wilt.
Gnomonia veneta (Sacc. & Speg.) Kleb. (Gloeosporium nervisequum (Fckl.) Sacc.), anthracnose. Reported on maples, possibly not critically determined; typically on oaks and sycamore.
Hydnum septentrionale Fr., white spongy rot; occasionally on living trees.
Nectria cinnabarina (Tode) Fr. (Creonectria purpurea (L.) Seaver, Tubercularia vulgaris Tode), die back, twig canker. General.
Nectria galligena Bres., trunk canker. Widespread, especially on mountain, red, and sugar maples.
N. coccinea Fr. & N. ditissima Tul. also reported but pathogenicity to maples is doubtful.
Pezicula acericola (Pk.) Sacc., on bark associated with cankers. Occasional.
Phleospora aceris (Lib.) Sacc., leaf spot. General.
Included here are fungi that have been referred to various spp. of Cylindrosporium, Gloeosporium, and Septoria. It seems best to treat this as a cosmopolitan sp. showing many minor variations due mainly to host and environmental differences. Phyllosticta minutissima Ell. & Ev. is typically associated with it.
(P. curvispora (Ell. & Ev.) Petr.). ? P. aceris.
Pholiota adiposa Fr., brown mottled heart rot.
Phoma fumosa Ell. & Ev. twig blight. Occasional.
(P. minima (B. & C.) Sacc.). Phyllosticta m.
Phomopsis lebiseyi (Sacc.) Died. (Cryptodiaporthe lebiseyi (Desm.) Wehm.), twig blight. Occasional.
Phoradendron flavescens Nutt., mistletoe. Occasional in South Atlantic and Southern States.
(Phyllosticta acericola Cke. & Ell., ? P. aceris Sacc., ? P. arida Earle, ? P. minutissima Ell. & Ev., ? P. negundinis Sacc. & Speg., P. platanoidis Sacc., P. saccharina Ell. & Martin) P. minima.
P. minima (Berk. & Curt.) Ell. & Ev., leaf spot, gray spot. General.
Physalospora obtusa (Schw.) Cke., dieback, canker. (Sphaeropsis malorum Pk. and ? other Sphaeropsis spp.) Occasional.
Phytophthora cactorum (Leb. & Cohn) Schroet., bleeding canker. R. I., Mass.
Phytomonas tumefaciens (E. F. Sm. & Towns.) Bergey, crowngall. On nursery plants; Mich., Okla.
Pleurotus ostreatus Fr., white flaky sapwood rot. Occasionally on living trees following wounds.
P. ulmarius Fr., sapwood rot, wound rot.

Polyporus adustus (Willd.) Fr., white mottled rot, sapwood rot.
P. hirsutus (Wulf.) Fr., white mottled rot, sapwood rot.
P. hispidus (Bull.) Fr., white spongy heart rot.
P. pargamenus Fr., white pocket rot, sapwood rot; occasionally on living trees.
P. squamosus (Huds.) Fr., white mottled heart rot.
P. sulphureus (Bull.) Fr., brown cubical heart rot; occasionally on living trees following wounds.
P. versicolor (L.) Fr., sapwood rot, wound rot.
Poria subacida (Pk.) Sacc., white spongy rot.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. Reported on all Acer spp.; general on A. rubrum and A. saccharinum, rare on A. platanoides and A. pseudoplatanus in U. S., rare in Pacific Coast States; probably biologically specialized on different Acer spp.
Rhytisma punctatum (Pers.) Fr., black-speckled leaf spot. Reported on all Acer spp., especially A. saccharinum, A. spicatum, and A. pennsylvanicum but uncommon in Eastern States; abundant on A. macrophyllum in Pacific Coast States.
(Septoglocum acerinum (Pass.) Sacc.) Phleospora aceris.
(Septoria acerella Sacc., S. acerina Pk., S. aceris (Lib.) B. & Br., S. aceris-macrophylli Pk., S. circinata Ell. & Ev., S. curvispora Ell. & Ev., S. marginata Heald & Wolf, S. negundinis Ell. & Ev., S. saccharina Ell. & Ev., S. samarae Pk.) Phleospora aceris.
Schizophyllum commune Fr., wound rot. Occasionally on living trees, especially A. negundo & A. saccharinum.
Sphaeronema acerinum Pk. See Dermatea acerina.
Sphaeropsis albescens Ell. & Ev. and various spp. of doubtful standing, twig blight. Widespread.
S. malorum Pk. See Physalospora obtusa.
(S. minima B. & C.) Phyllosticta m.
Stereum fasciatum Schw., brown crumbly heart rot.
Stereum hirsutum (Willd.) Fr., sapwood rot, wound rot.
Stereum purpureum Pers., sapwood rot, silver leaf. Occasionally on living trees following wounds.
Thelephora terrestris (Ehrh.) Fr., seedling blight.
Taphrina spp., leaf blister. Several spp. reported on different Acer spp.; uncommon.
Tubercularia vulgaris Tode. See Nectria cinnabarina.
Uncinula circinata Cke. & Pk., powdery mildew. General in Eastern States.
Valsa sordida Nit. (Cytospora chrysosperma), twig canker, dieback. Widespread.
Verticillium sp., wilt. Identified usually as V. albo-atrum Reinke & Berth. or V. dahliae Kleb., of doubtful specific distinction. Widespread on cultivated maples, especially A. platanoides.

Leaf scorch. Common on street and lawn trees; occasional on forest trees. Physiogenic, associated with drought, frost, sun burn, etc.; also of parasitic origin, either direct, due to various Gloeosporium spp. infecting leaves, or secondary, due to Verticillium wilt.

Acer circinatum Pursh, vine maple. Plant Growth Regions 1, 2, 4.

Nectria coccinea (Pers.) Fr., N. galligena Bres., canker. Oreg.
Phleospora aceris (Lib.) Sacc., leaf spot. Calif., Oreg., Wash.
Phyllosticta minima (Berk. & Curt.) Ell. & Ev., leaf spot. Mont.
Phytomonas aceris Ark, bacterial leaf spot. Calif.
Rhytisma punctatum (Pers.) Fr., black-speckled leaf spot. Oreg.
Valsa sordida Nit., canker. Mont.
Erinose. Proliferation and pigmentation of leaf hairs caused by mites; occasional in North Pacific States.

A. glabrum Torr., dwarf maple. Plant Growth Regions 4, 5, 12, 13, 14, 15. A. glabrum var. douglasii (Hook.) Dippel occurs in Regions 4 and 12.

Phleospora aceris (Lib.) Sacc., leaf spot. Widespread.
Phyllosticta minima (Berk. & Curt.) Ell. & Ev., leaf spot. Widespread.
Rhytisma punctatum (Pers.) Fr., black-speckled leaf spot. Oreg., Wash.
Valsa sordida Nit., canker. Mont., Wash.

A. grandidentatum Nutt., bigtooth maple. Plant Growth Regions 7, 8, 9, 11, 12, 13, 14, 16, 19.

Rhytisma acerinum (Pers.) Fr., tar leaf spot.
Steganosporium piriforme (Hoffm.) Cda., on twigs. Wash.
Taphrina aceris (Dearn. & Barth.) Mix, leaf blister. Utah.

A. macrophyllum Pursh, big leaf maple. Plant Growth Regions 1, 2, 3, 4, 5.

Botryosphaeria berengeriana De Not., on dead twigs. Wash.
(Ceratostoma tinctum Ell. & Ev.) Rhyncostoma tinctum.
Cercosporella aceris Dearn. & Barth., C. albo-punctata Ell. & Ev., leaf spot. Oreg., Wash.
Diplodia subtecta Fr., on twigs. Wash.
Heterodera marioni (Cornu) Goodey, root knot. Oreg.
Hypoderma commune (Fr.) Duby, leaf spot. Oreg.
Illosporium maculicola Sacc., leaf spot. Wash.
Massaria inquinans (Tode) Fr., on twigs. Wash.
Microsphaera alni (Wall.) Salm., powdery mildew. Oreg.

(Nectria cinnabarina (Todc) Fr.), die back. Calif., Wash.
N. coccinea (Pers.) Fr. var. minor Wr., canker. Oreg.
N. galligena Bres., European canker. Oreg.
Phleospora aceris (Lib.) Sacc., leaf spot. Calif., Oreg., Wash.
Phyllactinia corylea (Pers.) Karst., powdery mildew. Calif.
Phytomonas aceris Ark, bacterial leaf spot. Calif.
Polyporus dryadeus Fr., butt rot. Oreg.
P. spraguei Berk. & Curt., heartwood rot. Wash.
Rhyncostoma tinctum (Ell. & Ev.) Berl. & Vogl., on twigs. Wash.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. North Pacific States.
R. punctatum (Pers.) Fr., black-speckled leaf spot. North Pacific States.
Verticillium dahliae Kleb., wilt. North Pacific States.

Acer negundo L., boxelder. Plant Growth Regions 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30.

Ascochyta negundinis Tehon, leaf spot. Ill.
Camarosporium negundinis Ell. & Ev., on twigs. Colo.
Cercospora negundinis Ell. & Ev., leaf spot. Widespread.
Coryneum negundinis B. & C., twig blight. Mo.
C. septosporioides Sacc. & Syd., canker. Colo.
Coniothyrium negundinis Tehon & Daniels, on twigs. Ill.
Cytospora annulata Ell. & Ev., ? C. negundinis Ell. & Ev., die-back. Occasional.
Diatrype hedelagae Ell. & Ev., on bark — ? canker. N. Dak.
Dinemasporium hispidulum (Schrad.) M. A. Curtis, black mildew. N. Dak.
Diplodia atrata (Desm.) Sacc., on twigs. Nebr., W. Va.
D. inquinans Ell. & Barth., on twigs. Kans.
Fomes connatus (Weinm.) Gill., white spongy rot. Occasional on street trees.
Fusarium reticulatum Mont. var. negundinis (Sherb.) Wr., red stain. General.
Glocosporium apocryptum Ell. & Ev., leaf blight. Widespread.
(G. negundinis Ell. & Ev.) ? Phleospora aceris.
(Haplosporella clintonii (Pk.) Petr. & Syd.) Sphaeropsis alboscens.
Libertella acorina Westend. On bark. Md.
Leptothyrium maximum Tehon & Daniels, twig canker. Ill.
Macroplodia simillima (Pk.) Dearn. & House, twig blight. Ill.
Nectria cinnabarina (Todc) Fr., twig canker. Widespread.
N. verrucosa (Schw.) Sacc., canker. N. D.
Phacidium negundinis Tehon & Daniels, twig canker. Ill.
Phleospora aceris (Lib.) Sacc., leaf spot. Widespread.
Phoma fumosa Ell. & Ev., on twigs. Colo.
P. negundinicola Thüm., on samaras (N. J.) and var. ramicola Ell. & Ev., on twigs. Iowa, W. Va.
Phyllosticta minima (Berk. & Curt.) Ell. & Ev. (?P. negundinis Sacc. & Speg.), leaf spot. Widespread.

Phymatotrichum omnivorum (Shear) Duggar., root rot. Calif, Tex.
Physalospora obtusa (Schw.) Cke., twig canker. Ga., Ill., Tenn., Va.
Poria pulchella Schw., sapwood rot. Mont.
Rhizoctonia crocorum (Pers.) DC. (Helicobasidium purpureum (Tul.) Pat., root rot. Tex.
Rhytisma punctatum (Pers.) Fr., black-speckled leaf spot. N. Y.
Septobasidium coker i Couch, and S. filiforme Couch, felt-fungus canker. N. C.
Sphaeropsis albescens Ell. & Ev. (S. clintonii Pk.), twig blight, die-back. Iowa, Kans., N. Dak., S. Dak.
S. negundinis Tehon & Daniels. See Physalospora obtusa.
S. acerina Ell. & Barth., S. grandinea Ell. & Ev., S. simillima Pk. (See Macroplodia s.) reported on A. negundo in Ill.
Stereum purpureum Pers., silver leaf. S. Dak.
Thelephora terrestris (Ehr.) Fr., seedling smother. S. Dak.
Verticillium albo-atrum Reinke & Berth., wilt. Occasional.

A. negundo L. var. californicum (Torr. & Gray) Sarg., California boxelder. Plant Growth Regions 3, 4, 5.

Cryptodiaporthe lebiseyi (Desm.) Wehm. (Phomopsis l. (Sacc.) Died.), twig blight. Calif.
Phleospora aceris (Lib.) Sacc. (? P. californica Ell. & Ev.), leaf spot. Calif., Tex.
Phytomonas aceris Ark, bacterial leaf spot. Calif.
Rhytisma acerinum (Pers.) Fr., tar leaf spot.
Septoria crassospora Linder, leaf spot. Calif.

A. nigrum Michx. f., black maple. Plant Growth Regions 21, 22, 24, 25, 26, 27, 28, 29.

Phleospora aceris (Lib.) Sacc., leaf blight. Iowa.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. Widespread.
Phytophthora cactorum Schroet., bleeding canker. R. I.
Polyporus frondosus Fr., butt rot. Iowa.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. Widespread.
R. punctatum (Pers.) Fr., black-speckled leaf spot. W. Va.
Taphrina sacchari Jenkins, leaf blister. Ohio.
Uncinula circinata Cke. & Pk., powdery mildew. Ind., Mich.
Verticillium albo-atrum Reinke & Berth., wilt. Ill.

A. palmatum Thunb. Japanese maple. Cultivated.

Cytospora acerina Aderh., canker. Mass., N. Y., Ohio.
Glocosporium apocryptum Ell. & Ev., leaf blight. Widespread.
Myxosporium sp., canker. Pa. Possibly = Phomopsis = Cryptodiaporthe.
Nectria cinnabarina (Tode) Fr., die-back, twig canker. Conn., Mass., N. J., Ohio, Pa.

Phoma palmatum Sacc. (? P. pustulata (Sacc.) Died.), leaf spot. N. Y., Pa.
Phomopsis sp., die-back, canker. Conn., D. C., N. J., Pa., Va.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. Widespread.
Phytomonas aceris Ark, bacterial leaf spot. Calif.
Pseudographium sp., twig canker. Wash.
Sphaeropsis sp., die-back. Md., N. J.
Verticillium albo-atrum Reinke & Berth., wilt. Widespread.
Leaf scorch, non-parasitic. General.

A. pennsylvanicum L., striped maple. Plant Growth Regions 21, 23, 24, 26, 27.

Botryodiplodia acerina Ell. & Ev., on twigs. W. Va.
Cytospora exasperans Ell. & Ev., on twigs. W. Va.
Gloeosporium apocryptum Ell. & Ev., leaf blight. Pa.
Libertella acerina Westend., on bark. N. Y.
Nectria cinnabarina (Tode) Fr., die-back, twig canker. N. H. N. Y., Vt.
N. ? coccinea (Pers.) Fr., trunk canker. Conn.
Pezicula acericola (Pk.) Sacc., on bark -- ? canker. Pa.
Phleospora aceris (Lib.) Sacc., leaf spot. Widespread.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. N. Y., Pa.
Rhytisma punctatum (Pers.) Fr., black-speckled leaf spot. N. Y., Pa., Vt., W. Va.
Uncinula circinata Cke. & Pke., powdery mildew. N. Y.

A. platanoides L., Norway maple. Cultivated.

Cladosporium epiphyllum (Pers.) Mont., leaf spot. Del., Idaho, Md., N. J.
Coniothyrium olivaceum Bon. var. aceris Ferr., leaf spot. Del.
Cristulariella depraedans (Cke.) Hoehn., leaf spot. W. Va.
Cytospora sp., canker. Mass., N. J.
Diplodia atrata (Desm.) Sacc., on twigs. Pa.
Fusarium solani (Mart.) App. & Wr., basal decay. N. J.
Gloeosporium apocryptum Ell. & Ev., leaf blight. General.
(G. saccharinum Ell. & Ev.) ? Phleospora aceris.
Macroplodia simillima (Pk.) Dearn. & House, twig blight. N. Y.
Nectria cinnabarina (Tode) Fr., canker, die-back. Widespread.
Phleospora aceris (Lib.) Sacc., leaf spot. Widespread.
Phomopsis sp., canker. N. J.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. Widespread.
Phytophthora cactorum (Leb. & Cohn) Schroet., bleeding canker. R. I., Mass.
P. cambivora (Petri) Buis., crown canker. N. J.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. N. Y.
Sphaeropsis albescens Ell. & Ev., on twigs. N. J.
(S. simillima Pk.) Macroplodia simillima.

Steganosporium piriforme (Hoffm.) Cda., die-back. Kans., Minn., N. J., Pa., Va., W. Va.
Taphrina sp., leaf blister. Miss.
Verticillium albo-atrum Reinke & Berth., wilt. General.
Leaf scorch, non-parasitic. Widely prevalent during hot, dry weather.

A. pseudo-platanus L., sycamore maple. Cultivated.

Botryosphaeria ribis Gross. & Dug., on twigs. Nebr.
Nectria cinnabarina (Tode) Fr., die-back, twig canker. Conn., Mass.
Phyllactinea corylea (Pers.) Karst., powdery mildew. Wis.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. Conn., Pa.
Phytomonas tumefaciens (Smith & Town.) Bergey, crown gall. Mich.
Phytophthora cactorum (Leb. & Cohn) Schroet., bleeding canker. R.I.
Rhytisma punctatum (Pers.) Fr., black-speckled leaf spot.
Steganosporium piriforme (Hoffm.) Cda., on twigs. Mass., N. J., N. Y., Pa.
Verticillium albo-atrum Reinke & Berth., wilt. Conn., Mo., Va.

A. rubrum L., red maple. Including the following varieties, or, according to some authors, species: A. r. sanguineum (Spach) Pax; A. r. drummondii (Hooker & Arnott) Sargent, Drummond maple; and A. r. tridens Wood, swamp maple. Plant Growth Regions 19,20,21,22,23,24,25,26,27,28,29,30.

Ciboria acerina Whetzel & Buchw., inflorescence blight. N. Y.
Cladosporium epiphyllum (Pers.) Mont., leaf spot. Md.
C. humile J. J. Davis, leaf spot. Wis.
Cristulariella depraedans (Cke.) Hoehn., leaf spot. Conn.
Cuscuta gronovii Willd., dodder. N. Y.
Cytospora chrysosperma (Pers.) Fr. See Valsa sordida.
C. exasperans Ell. & Ev., and Cytospora spp., twig canker. Mass., Me., N. Y., W. Va.
Dermatea acerina (Pk.) Rehm, bark canker. Mich., N.Y., Pa., & New England.
(D. carnea Cke. & Ell.) Peziculа carnea.
Diaporthe aceris Fckl., on twigs. N. Y.
Diatrype hochelagae Ell. & Ev., on bark -- ?canker. Great Lakes States.
Diplodina stenospora (B. & C.) Sacc., on twigs. N. Y.
Endothia parasitica (Murr.) P. J. & H. W. Anderson. Saprophytic on this sp.
Eutypella parasitica Davids. & Lor., trunk canker. N. Engl., N. Y., & Great Lakes States.
Erinella miniopsis (Ell.) Sacc., on bark. Mass.
Ganoderma lucidum (Leyss.) Karst., white spongy rot. Widespread.
G. sessile Murr., on stumps & logs. Widespread.

Gloeosporium spp. (not G. apocryptum) ? Phleospora aceris.
Libertella acerina Westend., on bark, ? canker. W. Va.
Macroplodia simillima (Pk.) Dearn. & House, twig blight. N. Y.
Monochaetia desmazierii Graves, leaf spot. Ga., N.C., Tenn.
Nectria cinnabarina (Tode) Fr. and Nectria spp., canker. Widespread.
Pezicula carnea (Pk.) Sacc., bark canker. N. Y.
Pezizella lythri (Desm.) Shear & Dodge, on twigs. N. C., Va.
Phleospora aceris (Lib.) Sacc., leaf spot. General.
Phoradendron flavescens (Pursh) Nutt., mistletoe. Ind., N. C.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. General.
Physalospora obtusa (Schw.) Cke., die-back. Va.
Pycnopeziza sympodialo (Bub. & Vleug.) White & Whetzel. On staminate inflorescence. N. Y.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. General.
Schizoxylon microsporum Davids. & Lor., trunk canker. Mich., Minn.
(Scleroderris acerina (Pk.) Sacc.) Dermatea acerina.
Septobasidium fumigatum Burt, (S. pedicillatum Amer. auth.), felt-fungus canker. Ala., Fla., La., N.C., S.C.
Steganosporium piriforme (Hoffm.) Cda., twig canker. Eastern States and New Engl.
Strumella coryneoidea Sacc. & Wint., trunk canker. Conn. and Appalachian Mts.
Taphrina dearnessi Jenk., leaf blister. Ala., Mich., N.Y.
Uncinula circinata Cke. & Pk., powdery mildew. General.
Valsa etherialis Ell. & Ev., on twigs & branches. N.Y., Pa., Vt.
Verticillium albo-atrum Reinke & Berth., wilt. Widespread.
Erinose. Proliferation of epidermal hairs caused by mites. (Acaridae). N.Y.
Leaf scorch, nonparasitic. Occasional in cultivated trees.

A. saccharinum L., silver maple. Plant Growth Regions 18 to 30 incl.

Ciboria acerina Whetzel & Buchw. On staminate inflorescence. N.Y.
Clitocybe tabescens (Scop.) Bres., root rot. Mo.
Diaporthe aceris Fckl., on twigs. W. Va.
Diatrype platystoma (Schw.) Berk., on twigs. Ind.
Gloeosporium apocryptum Ell. & Ev., leaf blight. Widespread.
Gloeosporium spp. On leaves & shoots. Widespread.
Libertella acerina Westd., on bark. W. Va.
Lophodermium punctiforme (Fr.) Fckl., on leaves & petioles. N.Y.
Macroplodia simillima (Pk.) Dearn. & House, twig blight. Ill.
Massaria inquinans (Tode) Fr., on twigs. N.Y., Pa.
Marssonia castagnei (D. & M.) Sacc., leaf spot. Oreg.
Melanconiopsis inquinans Ell. & Ev., on twigs. Kans.
Phleospora aceris (Lib.) Sacc., leaf spot. Widespread.
Pholiota adiposa Fr., heart rot. Occasional on stumps & sprouts.

Phoradendron flavescens (Pursh) Nutt., mistletoe. Ind.
Phyllactinia corylea (Pers.) Karst., powdery mildew. Widespread.
Phyllosticta minima Ell. & Ev., leaf spot. General.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.
Physalospora obtusa (Schw.) Cke., die-back. Ala.
Rhizoctonia solani Kühn (Corticium solani Bourd. & Galz.), damping-off. Okla.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. General with host.
R. punctatum (Pers.) Fr., black-speckled leaf spot. Ind., N.Y.
Septobasidium fumigatum Burt., felt-fungus canker. Ky., N.C.
Sphaeropsis albescens Ell. & Ev., twig blight. Kans., Wis.
Steganosporium piriforme (Hoffm.) Cda. Ind., Kans., Pa.
Taphrina carveri Jenk., leaf blister. Ala., Mich., Mo.
Uncinula circinata Cke. & Pk., powdery mildew. Widespread.
Ustulina vulgaris Tul., on roots. Occasional.
Valsa etherialis Ell. & Ev., on twigs & branches.
Verticillium albo-atrum Reinke & Berth. Widespread on cultivated trees.

A. saccharum Marsh, sugar maple. (Including var. sinuosum Rehd.)
Plant Growth Regions 15,18,21,22,23,24,25,26,27,28,29.

Coryneum megundinis B. & C., on twigs. N.Y.
Cristulariella depraedans (Cke.) Hoehn. Conn.
Dermatea acerina (Pk.) Rehm, bark canker. N.Y., W. Va.
Diaporthe robusta Pk., on twigs. Vt.
Diatrype platystoma (Schw.) Berk., on twigs.
Diatrypella frostii Pk., on twigs. Conn., Ind., Mich., N.Y.
Diplodia acericola Tehon & Stout, on twigs. Ill.
Eutypella parasitica Davids. & Lor., trunk canker. N.H. to Minn.
Gloeodes pomigena (Schw.) A. S. Colby, on twigs. Ind.
Gloeosporium apocryptum Ell. & Ev., leaf blight. Widespread.
(G. hysterioideum Dearn. & Barth.) ? Phleospora aceris.
Gloeosporium spp., on leaves. Widespread.
Macroplodia simillima (Pk.) Dearn. & House, twig blight. N.Y., Ill.
Massaria inquinans (Tode) Fr., on twigs. N.Y.
Nectria cinnabarina (Tode) Fr., and Nectria spp., canker. Widespread.
Pezicula acericola (Pk.) Sacc., bark canker. Vt.
Phleospora aceris (Lib.) Sacc., leaf spot. N. Engl., Wis.
Pholiota adiposa Fr., brown mottled heart rot. Occasional.
Phomopsis sp., twig canker. Ohio.
Phoradendron flavescens (Pursh) Nutt., mistletoe. Ind.
Phyllactinia corylea (Pers.) Karst., powdery mildew. Occasional.
Phyllosticta minima (B. & C.) Ell. & Ev., leaf spot. General.
Phymatotrichum omnivorum (Shear) Dug., root rot. Texas.
Phytophthora cactorum Schröt., bleeding canker. R.I.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. General.
R. punctatum (Pers.) Fr. Ind., Pa., Va.

Schizoxylon microsporum Davids. & Lor., trunk canker. Mich.,Minn.
Steganosporium acerinum Pk. and S. piriforme(Hoffm.) Cda., on twigs. Ind., Pa., New Engl.
Taphrina sp., leaf blister. Me.
Taphrina polyspora (Sorok.) Johans. var. pseudoplatani Massal, leaf blister. Ark.
T. sacchari Jenk., leaf blister. N.Y. to Wis. and Ga. to Mo.
Uncinula circinata Cke. & Pk., powdery mildew. General.
Verticillium albo-atrum Reinke & Berth. Widespread.

A. spicatum Lam., mountain maple. Plant Growth Regions 23,24,26,27.

Cristulariella depraedans (Cke.) Hochn., leaf spot. N.Y.
Diaporthe acerina (Pk.) Sacc. Sapro.? Va.
Herpotrichia albidostoma (Pk.) Sacc. Sapro.? N.Y.
Leptothyrella aceris Dearn. & House. Sapro.? N.Y.
Macrophoma albifructua (Pk.) Berl. & Vogl. Sapro.? Mich.
Nectria spp., canker. Va. to Vt.
Pezicula acericola (Pk.) Sacc., bark canker. N.H., N.Y., Va.
Phlaospora aceris (Lib.) Sacc., leaf spot. Widespread.
Phyllosticta minima (B. & C.) Ell. & Ev. (= ? P. platanoides Sacc.), leaf spot. N.Y., Vt., Wis.
Rhytisma acerinum (Pers.) Fr., tar leaf spot. Occasional.
R. punctatum (Pers.) Fr., black-speckled leaf spot. General.
Taphrina dearnessi Jenk., leaf blister. N.Y.
T. lethifera (Pk.) Sacc., leaf-wrinkling. N.Y.
Uncinula circinata Cke. & Pk., powdery mildew. Mich.,Pa., N.Y.

(Division of Mycology and Disease Survey, U. S. Bureau of Plant Industry).

REHMIELLOPSIS NEEDLE BLIGHT OF BALSAM FIR IN MAINE

Alma M. Waterman and Kenneth F. Aldrich

In 1933[1] a needle blight caused by Rehmiellopsis bohemica Bub. and Kab. (R. abietis Rostr.) was reported on Colorado fir (Abies concolor Lindl. and Gord.) in Maine, Massachusetts, and New York. Later[2] the same disease was found on native balsam fir (A. balsamea Mill.) in northwestern Maine.

1/ Waterman, A. M., and M. A. McKenzie. A disease of Colorado fir. Phytopath. 23: 108-109. Jan. 1933.

2/ Waterman, A. M. New hosts and distribution of Rehmiellopsis bohemica. Phytopath. 27: 734-736. June 1937.

The most conspicuous symptoms of the disease on balsam fir, as well as on Colorado fir, are the reddish shriveled needles and the blackened stunted twigs of the new growth. From a distance the infected trees give the appearance of having been scorched by fire or injured by late frosts. Many of the infected needles of the previous years remain clinging to the twigs. In some cases it is possible by this means and by the presence of blackened leaf cushions surrounded by small cankered areas to determine whether the trees were infected during the past two years. In the spring the mature fruiting bodies of the fungus are present on the infected needles of the previous year's growth. The period of infection is apparently determined by the occurrence of warm rains at the time when the fungus spores have reached maturity and when the new growth is developing. On the balsam fir in the areas inspected infection seems to take place during late June or early July. On the Colorado firs, which are located in areas where the growing season begins earlier, infection usually occurs during the latter part of May.

The localities in Maine from which the disease was reported on Colorado firs were in the southern part of the State, particularly around Portland and Augusta. Inspection of the native balsam fir in the vicinity of Augusta and eastward along the main routes to Liberty and Washington failed to show any infection. The first collection of the disease on balsam fir was made in Eustis3/. In a later inspection of that area the disease was found to be rather abundant in Eustis, Stratton and Jim Pond Township, but did not extend as far west as Rangeley. Since 1937, further surveys of the region southeast of Stratton and eastward around Moosehead Lake showed a more extensive distribution of the disease on balsam fir.

In July 1938 an inspection of the area east of Stratton (2)4/ and Eustis (3) through Flagstaff (4) and southward through Dead River (5) and Kingfield (6) showed considerable infection on balsam firs of all sizes. Only those trees easily accessible from the road were examined, but the disease was sufficiently prevalent to indicate the serious effect of infection on the new growth of the young trees. In the latter part of May 1939 it was found that young trees in the dense growth about 150 to 200 feet from the road were infected as severely as those in exposed positions along the road.

The trees in the region around Moosehead Lake were inspected about the middle of July 1939, just after infection had taken place and at the time when the symptoms of the disease were most conspicuous. The area inspected was as follows: from Greenville (17) northeast

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3/ See reference in footnote 2.

4/ The numbers in parentheses refer to the corresponding numbers in Figure 1, indicating the locations of the towns.

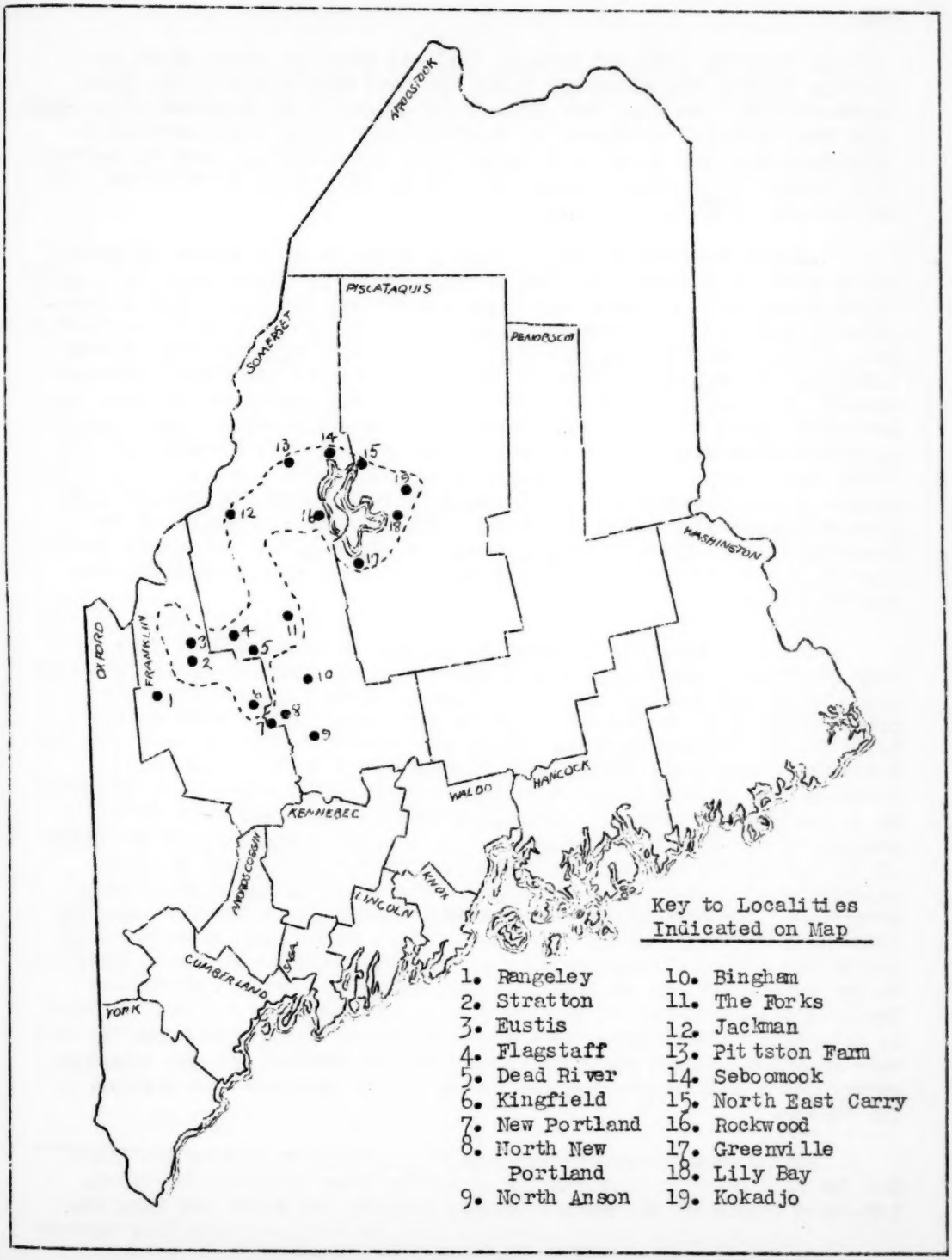

Fig. 1. Distribution of needle blight of balsam fir in Maine. Infection found within area bounded by dotted lines.

through Lily Bay (18) and Kokadjo (19) and about 10 miles north of Kokadjo towards Ripogenus Dam along the road maintained by the Great Northern Paper Company; from Greenville northwest to Rockwood (16) (Route 15); from Rockwood northwest to Pittston Farm (13), then eastward to Seboomook (14) and North East Carry (15); from Rockwood west to Jackman (12) (Route 195); from Jackman (12) (Route 195) south to The Forks (11) and Bingham (10) (Route 201).

Along the Kokadjo road infection began to be conspicuous about 7 miles north of Greenville. Occasional heavily infected trees were scattered among those showing only light infection. In some cases groups of heavily infected trees were surrounded by healthy trees or those showing only a few infected needles. From Greenville to Rockwood very little infection was found; in fact, in the region around Greenville along the extreme southern part of the Lake only an occasional infected tree was noticed. Along the road maintained by the Great Northern Paper Company northward from Rockwood to Pittston Farm and eastward to Seboomook and North East Carry a moderate amount of infection was present. Scattered groups of heavily infected trees among trees showing moderate or light infection were noticeable along the banks of the West Branch of the Penobscot River beyond Pittston Farm. In general, the amount of infection along the western side of the Lake was much more than along the eastern side.

On Route 195 from Rockwood to Jackman infected balsam firs were very abundant. Beginning about 7 miles west of Rockwood heavy infection began to be noticeable. For a distance of about 10 miles from that point balsam firs of various sizes on both sides of the road showed infection in varying degrees. Along the 5-mile stretch of road from the Sandwich Township and Misery Gore Township line to the Long Pond Township line infection was more severe than in any other area inspected up to the present time. On seedlings about 2 feet high most of the needles of the past 2 years' growth were infected and many of the twigs of the new growth had been killed back. Trees up to 35 to 40 feet showed infection even on the leaders. The trees in the most exposed situations, directly along the roadside, were no more heavily infected than those more sheltered. Infected needles were numerous on the 1938 growth and a few infected needles of the 1937 growth were still adhering to the twigs. It was evident that the disease is gradually killing trees of all sizes but particularly the seedlings. No attempt was made to determine whether trees at a considerable distance back from the road were infected because the dense growth and underbrush and the numerous swampy areas made inspection impossible in the limited time devoted to the survey.

From Jackman south to The Forks occasional infection was found, for the most part on scattered trees rather than on groups of trees. Infection seemed to disappear entirely between The Forks and Bingham.

Figure 1 indicates the areas inspected in 1936, 1938, and 1939. Localities in which infected balsam firs were found along the main routes between the towns are included within the area bounded by the dotted lines. The towns outside this area indicate that inspection has been made but no infection was found.

It is probable that the disease is even more widespread on native balsam fir than is indicated by the results of the surveys made up to the present time. Only a relatively small area has been covered and the disease may extend for a considerable distance east of the Moosehead Lake region. The possibility of some connection between the infection on the balsam fir in northwestern Maine and on the Colorado fir in southern Maine has been the basis for the surveys. In no case have balsam firs in the vicinity of infected Colorado firs shown infection, but a detailed and exhaustive search has never been conducted.

(Division of Forest Pathology, Bureau of Plant Industry, United States Department of Agriculture, cooperating with Osborn Botanical Laboratory, Yale University, New Haven, Connecticut).

THREE NEW LOCATIONS FOR THE SYCAMORE (PLANETREE) DISEASE

Paul V. Mook

The Ceratostomella disease of planetree has recently been found at Middlesboro, Kentucky; Knoxville, Tennessee; and Elsmere, Delaware. An outbreak has previously been reported at Claymont, Delaware, but this is the first record of the presence of the disease in Kentucky and Tennessee.

Considerable numbers of London planes [Platanus acerifolia] lining the streets in the Brack-Ex section of Elsmere, near Wilmington, Delaware, are affected, a number have already died, and all stages of the disease are represented. Many of these trees had been pruned in line-clearing operations.

At Knoxville, Tennessee, a large American plane (sycamore) [P. occidentalis] and at Middlesboro, Kentucky, two American planes were found in advanced stages of the disease. At both locations nearly 1/2 to 3/4 of the trunks at breast height were occupied by the elongated cankers, which are typical external symptoms of the disease. The older cankers and the necrotic bark at the edges of the cankers had been invaded by secondary fungi, resulting in basal and internal trunk rots. Hypoxylon was present on the dead bark surrounding some of the older cankers. However, from the bluish-black, moist-appearing wood discoloration, which is the principal internal symptom, the Ceratostomella, which is the causal organism of the disease, was readily isolated.

The infected trees at Knoxville and Middlesboro are of particular interest as they are native planes. Midlesboro is approximately 170 miles from South Charleston, West Virginia, the nearest known infection site.

Locations from which the disease has been previously reported in the literature are: Philadelphia, Pennsylvania, and vicinity; Baltimore, Maryland; Washington, D. C.; Magnolia, North Carolina; Williamsburg and Altavista, Virginia; Vicksburg, Mississippi; South Charleston, West Virginia; Newark, New Jersey; and Claymont, Delaware.

It is requested that specimens of the discolored wood from planetrees suspected of being affected by this disease be sent for diagnosis to the Division of Forest Pathology, 8 Whippany Road, Morristown, New Jersey.

(Division of Forest Pathology, U. S. Bureau of Plant Industry).

GRAY BULB ROT AND BOTRYTIS ON TULIPS

Cynthia Westcott

This specimen, along with many others, was dug from a Short Hills, New Jersey garden. Cultures have not been made but macroscopic and microscopic details correspond to that of Rhizoctonia tuliparum as described by Whetzel and Arthur. Hundreds of new tulips were planted in many places in this garden and there were many bare spots where not one in a group emerged and some others where only one or two came up. Since the bulbs were purchased from a reputable importer it seemed unlikely that so many could have been infected and hence it is probable that this disease had been present previously. Last year in this garden practically none of the tulips came up, but on investigation I found that napthalene flakes had been used in exceedingly large quantities around each bulb and there was no sprouting, although marks on the outside of the bulbs looked like fumigation injury. After the tulips were aired out in my laboratory some did sprout. I saw no indication of the gray bulb rot so unmistakable this year, and think that probably the napthalene inhibited the fungus as well, but that when the beds were prepared for tulips this fall the sclerotia of the Rhizoctonia were well distributed.

Some cases of botrytis blight of tulips, so common this season, cannot be attributed to previous contamination of the soil and must, in some cases in my opinion, have come in with the bulbs from Holland. At Nyack, New York, there is a very serious infection, all the bulbs dug up being covered with sclerotia. No tulips have ever been planted here before, the garden surrounding a new house on land just being reclaimed

from woods. Also, at Rydal, Pennsylvania, the tulips in one bed showed much Botrytis blight, with sclerotia on the bulbs, and here again the beds had been newly prepared and had not previously had tulips.

(Glen Ridge, New Jersey. May 16).

RHIZOCTONIA SOLANI ON STRAWBERRIES IN TRANSIT

Ivan H. Crowell

From a refrigerated, car-lot shipment of strawberries sent from Louisiana to Montreal, Quebec, a sample crate was forwarded on arrival, April 19, to the Department of Plant Pathology, Macdonald College. Every box in the crate was uniformly infected and showed an abundance of fluffy white mycelium growing from almost every berry. One-half of the boxes were carefully examined and 3/4 box of healthy-appearing berries were found, all of which were below average size. Symptoms of the disease were very similar to those described for leather rot caused by Phytophthora cactorum (Leb. & Cohn.) Schröt. (J.A.R. 28: 4. 1924), but signs were definitely not those of this organism. Cultures of the mycelium and tissue of 12 infected berries all yielded Rhizoctonia, presumably R. solani Kühn. Examination of the mycelium growing from the berries and in culture showed it to be hyaline, of large diameter, sparingly septate, characteristically constricted and typically branched. After 10 to 14 days an abundance of dark sclerotia with characteristic irregular-shaped cells were formed in culture. Examination of boxed berries placed in a cool basement, and of berries kept in moist chambers at room temperatures did not reveal any evidence of P. cactorum. It was indeed striking that so many berries should be so uniformly infected, and secondly that although the symptoms were very like those described for leather rot--and not like those of the rhizoctonia brown rot-- the only organism recovered from the fresh fruits was R. solani.

(Department of Plant Pathology, McGill University, Macdonald College, Quebec).

REPORTS ON CEREAL DISEASES

VIRGINIA: Leaf rust [Puccinia rubigo-vera tritici] on wheat is becoming more prevalent and increasing in severity in the counties of the Shenandoah Valley and southwestern Virginia. Leaf rust was first observed on barley [P. anomala] in Botetourt County on May 7, on rye and barley in Wythe County on May 8, rye in Montgomery County on May 8, rye in Pulaski County on May 9, and on barley in Montgomery County on May 10.

Stripe disease [Helminthosporium gramineum] of barley was observed in Botetourt County and wheat nematode [Anguina tritici] in Grayson County on May 7. Nematode was also observed on wheat in Montgomery County on May 8. Powdery mildew [Erysiphe graminis] of wheat and barley has been observed quite generally and quite heavily in some locations. (S. B. Fenne, Virginia Agricultural and Mechanical College. May 16).

TEXAS: In spite of seemingly dry and windy weather during the past 10 days, stem rust [Puccinia graminis] has made rapid progress. Early fields of Fultz wheat in the east part of this county are starting to ripen. Although plants in these fields are well covered with rust, it appears that the crop may escape serious injury owing to early maturity. Later fields of Mediterranean and Tennarq wheat are highly infected and will be injured by rust to some extent. A general rain over this area, with 1.91 inches falling at the [Denton] Substation on May 18 will not help the rust situation any.

Crown rust [P. coronata] and stem rust of oats were found on May 10, which is rather late. The oat crop is well along toward maturity and it does not seem probable that these diseases will injure oats this year.

Owing to favorable rains this month, the small grain crop has materially improved in appearance and some very good yields will be obtained, it seems. Barley is beginning to ripen and a good crop is in prospect. Both covered and loose smut [Ustilago hordei, U. nuda] of barley and loose smut [U. avenae] of oats are widely prevalent this year. The amount of infection in some fields is rather high. (I. M. Atkins, Division of Cereal Crops and Diseases, Bureau of Plant Industry. May 20).